Precast Reinforced Concrete Used for Construction of Thermal Power Stations.

aerated panels up to 6 m long. The foundations are either precast or cast on the site. The grid of these buildings follows the modulus accepted by Gosstroy of USSR. Power stations built by the methods described above are: Kirovskaya TETS (thermal power station) in Leningrad (Fig.1), Vasilevichskaya, Dobrotvorskaya and Simferopol'skaya GRES-s (Fig.4). The following GRES-s, among others are under construction: Pribaltiyskaya, Zmiyevskaya, Starobeshevskaya and Zainskaya. Fig.2 illustrates joints of stanchion and beam, and Fig.3 of columns and foundations as carried out in the construction of Kirov power station. The sizes of precast units transported by rail were standardized as follows:- length, up to 14 m; weight, up to 20 t. The cross section of elements used for Simferopol' power station were also standardized: the width of all columns and beams, 600 mm; height of columns 1,600, 1,000, 800 and 600 mm, and beams - 1,600, 1,000 and 800 mm. Assembly was carried out by two cranes BK-405 with capacity of 40 t each. There are five types of columns: A, B, V, G and D.

SOV/97-58-12-2/13

Precast Reinforced Concrete Used for Construction of District Heating Power Stations.

Column type G weighs 50 t and is 42 m long. The weight and sizes of precast reinforced concrete structural units of various named power stations are described in detail. Fig.10 shows cross section of a power station with capacity of 350,000 kW, and Fig.11 one of 1,200,000 kW. There are 11 figures.

Card 3/3

SVERDLOV, P.M., inzh.

Joints of precast reinforced concrete elements for thermal electric power plants. Prom. stroi. 41 no.6:10-14 Je '64. (MIRA 17:9)

1. Vsesoyuznyy gosudarstvennyy proyektnyy institut po proyektirovaniyu elektrooborudovaniya teplotekhnicheskikh sooruzheniy.

SVERDLOV, S.I., inzh.

Using tar-water phenols in producing phenol formaldehyde resins. (MIRA 11:11)
Der.prom. 7 no.9:21-22 S '58.

1. Tallinskaya fanerno-mebel'naya fabrika.
(Resins, Synthetic)

SVERDLOV, S.I.

Industrial testing of the MCh-52 varnish. Der.prom. 8 no.4:20-21 Ap '59. (MIRA 12:6)

1.Tallinnskaya fanerno-mebel'naya fabrika.
(Varnish and varnishing--Testing)

SVERDLOV, S.I.

Determining the moisture content in veneer and plywood by the VCh instrument. Der. prom. 8 no.7:23 Jl '59. (MIRA 12:9)

1. Tallinskaya fanerno-mebel'naya fabrika.
(Moisture--Measurement)

SVERDLOV, S.I.

DFK [diphenyl ketone] phenol-formaldehyde resin from tar water phenols. Der.prom. 9 no.3:23-24 Mr '60. (MIRA 13:6)

(Gums and resins) (Phenols)

SVERDLOV, S.L.

Domestic chronic lead poisoning. Sov. med. 24 no. 2:135-136 F '60. (MIRA 14:2)

1. Iz Novozybkovskoy gorodskoy bol'nitsy (glavnyy vrach Lechebnogo ob"yedineniya I.F. Lebedev) Bryanskoy oblasti.
(LEAD POISONING)

SVERDLOV, S.L.

Clinical aspects and variations of the course of nonoccupational lead poisoning. Sov. med. 24 no. 10:93-97 O '60. (MIRA 13:12)

1. Iz Novozybkovskoy gorodskoy bol'nitsy Bryanskoy oblasti (glavnyy vrach B.K. Zheltyshov).
(LEAD POISONING)

MYSLYAYEVA, A.V., kand. med. nauk; ZAKHVATKINA, I.A.; SVERDLOV, S.L.; ANDREYEV, I.D., dotsent; GENADINNIK, I.S., kand. med. nauk; KUZNETSOV, A.A., NIKOLAYEVA, G.V., prof.; SILAKOVA, V.V., dotsent; SHAMLYAN, N.P.; FRIDMAN, M.N., dotsent; GORBYLEV, M.N.; SIGAL, Ye.S., zasluzhennyy vrach RSFSR; KHOLOPOVA, L.N.; GABOV, A.A.; LILEYEV, V.A.; MAKAREVICH, Ya.A., kand. med. nauk; SHELEPIN, A.S.; SHMELEV, M.M.; PEVZNER, G.I.; SILAYEV, Yu.S.

Abstracts. Sovet. med. 27 no.6:140-145 Je'63 (MIRA 17:2)

1. Iz kafedry propedevtiki vnutrennikh bolezney i patologicheskoy anatomii Kazakhskogo meditsinskogo instituta (for Myslyayeva, Zakhvatkina). 2. Iz Novozybkovskoy mezhrayonnoy bol'nitsy Bryanskoy oblasti (for. Sverdlov). 3. Iz kafedry normal'noy anatomii II Moskovskogo meditsinskogo instituta (for Andreyev). 4. Iz kafedry obshchey khirurgii i kafedry rentgenologii Chelyabinskogo meditsinskogo instituta (for Genadinnik, Kuznetsov). 5. Iz kafedry propedevticheskoy terapii Ivanovskogo meditsinskogo instituta (for Nikolayeva, Silakova). 6. Iz Lovozerskoy rayonnoy bol'nitsy Murmanskoy oblasti (for Shamlyan). 7. Iz kafedry gospital'noy terapii Bashkirskogo meditsinskogo instituta i terapevticheskogo otdeleniya 8-y bol'nitsy (for

(Continued on next card)

SVERDLOV S.M.

[illegible] between muscle impedance and its pol[illegible]ation [illegible] the presence of some chemical agents. [illegible] M. [illegible] S. M. Sverdlov (I. P. Pavlov Phys. [illegible] Inst., U.S.S.R., Moscow). *Doklady Ak. Nauk* [illegible] 49-52(1950).—The resistance of [illegible] [illegible]ments was detd. at 10^4 and 10^6 cycles [illegible] as [illegible] possible; the ratio of the 2 values was fo[illegible] to be [illegible] with less than 20% deviation. If Ring. soln. [illegible] replaced by isotonic NaCl, the ratio remains constant, with KCl the ratio slowly rises with concn. of KCl reaching 15-25 at 0.8% KCl in 3-6 hrs., after which it slowly declines. In isotonic K_2SO_4 there is a rapid rise of [illegible] (50%) owing to decline of low-frequency resistance, followed by a slower rise that extends for 20 hrs. or longer. [illegible] isotonic $CaCl_2$ there occurs a rapid decline of the resist[illegible] [illegible] by 40%, which may continue slowly. In $BaCl_2$ [illegible] a slight initial drop of the ratio, followed by a slow [illegible] some 20 hrs., followed by a 2nd decline; in $MgCl_2$ the [illegible]quency resistance rises more slowly than the low- [illegible] resistance, with consequent steady rise of the [illegible] to 10-20 hrs., after which a decline sets in. Thus [illegible] $MgCl_2$, while changing the resistance ratio in the same sense, give different effects on muscle polariz[illegible]ion. [illegible] immersion gives the max. p.d. between 2 muscle- [illegible] about 40 mv.) rather slowly (2 hrs.), after which the [illegible], showing the neg. action of $CaCl_2$ on the [illegible] potential; $MgCl_2$ has a pos. action, the max. [illegible] v) being reached in 10-20 min., a high value [illegible] even after 18 hrs. G. M. Kosolapoff

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001654120003-9"

SVERDLOV, S. M.

Electric potentials of the ganglion of anodonta. Izv.AN Arm.SSR. Biol.i Sel'khoz.nauki 7 no.8:69-78 Ag '54. (MLRA 9:8)

1. Fiziologicheskaya laboratoriya Akademii nauk SSSR, Moskva.
(NERVOUS SYSTEM) (ELECTROPHYSIOLOGY)

SVERDLOV, S.M.

Some remarks concerning the physiological properties of nerves and muscles of the anodonta. Biofizika 1 no.4:313-318 '56. (MLRA 9:9)

1. Fiziologicheskaya laboratoriya AN SSSR, Moskva.
(ELECTROPHYSIOLOGY) (NERVES) (MUSCLES)
(MUSSELS)

SVERDLOV, S.M.

Electrotonic potentials of anterior roots of the spinal cord in frogs. Nauk zap. Kyiv. un. 16 no.17:175-180 '57. (MIRA 13:2)
(SPINAL CORD) (ELECTROPHYSIOLOGY)

SVERDLOV, S.M.; MAKSIMOVA, Ye.V.

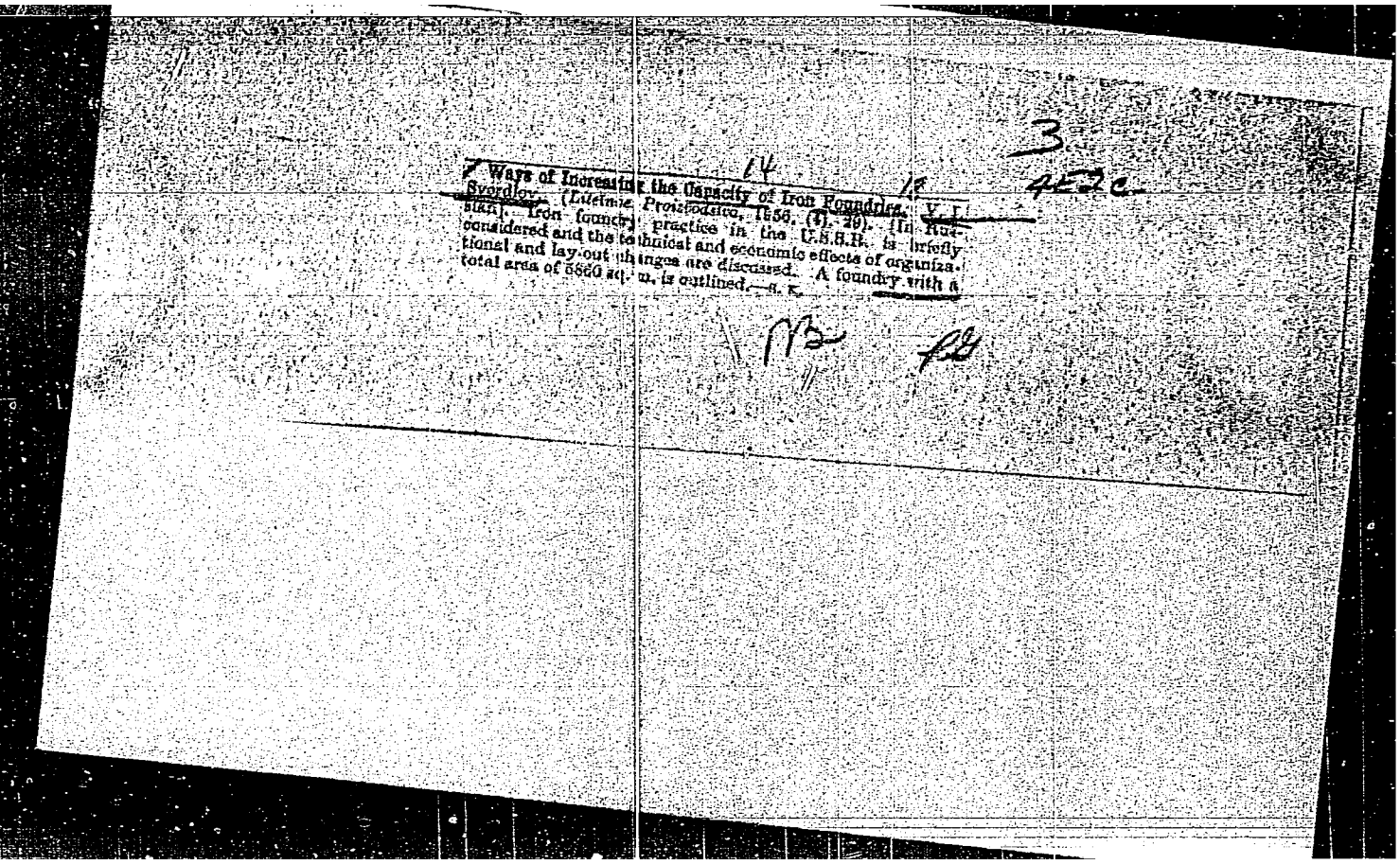
Inhibitory influence of afferent impulses on the motor effect of pyramidic stimulation. Biofizika 10 no.1:161-163 '65. (MIRA 18:5)

1. Institut vysshey nervnoy deyatel'nosti i neyrofiziologii AN SSSR, Moskva.

SVERDLOV, S.M.; MAKSIMOVA, Ye.V.

Effect of antidromic impulses on the spontaneous activity of the internuntial spinal neurons in cats. Fiziol. zhur. 51 no.6: 717-722 Je '65. (MIRA 18:6)

1. Institut vysshey nervnoy deyatel'nosti i neyrofiziologii AN SSSR, Moskva.



Ways of Increasing the Capacity of Iron Foundries. V. I. Svordlov. (*Liteinoe Proizvodstvo*, 1956, (1), 29). [In Russian]. Iron foundry practice in the U.S.S.R. is briefly considered and the technical and economic effects of organizational and lay-out changes are discussed. A foundry with a total area of 5660 sq. m. is outlined.—S. K.

SVERDLOV, V. I.

SOKOLOV, Aleksey Nikolayevich; LIPNITSKIY, Abram Markovich; SVERDLOV, V.I., inzhener, retsenzent; SHAPIRO, O.E., inzhener, redaktor; BORODULINA, I.A., redaktor izdatel'stva; SOKOLOVA, L.V., tekhnicheskiy redaktor

[Mechanizing the work of trimming and cleaning castings] Mekhanizatsiia rabot po obrubke i ochistke lit'ia. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1957. 181 p. (MLRA 10:8)
(Founding)

SVERDLOV, Veniamin Il'ich; MEDVINSKIY, I.Ye., inzh., retsenzent; LIPNITSKIY, A.M., red.; SERPIKOV, B.M., inzh., red.; LEYKINA, T.L., red. izd-va; PETERSON, M.M., tekhn. red.

[Mechanization of operations for the pouring of metal into molds, the shakeout and the cleaning of castings] Mekhanizatsiia rabot po zalivke form, vybivke i ochistke lit'ia. Pod obshchei red. A.M.Lipnitskogo. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 66 p. (Bibliotechka liteishchika, no.10) (MIRA 14:9)
(Foundries--Equipment and supplies)

PHASE I BOOK EXPLOITATION SOV/5648

Sokolov, Aleksey Nikolayevich, ed.

Mekhanizatsiya i peredovaya tekhnologiya liteynogo proizvodstva (Mechanization and Advanced Processing in Foundries) [Leningrad] Lenizdat, 1961. 236 p. 2,000 copies printed.

Ed.: Ye. V. Yemel'yanova; Tech. Ed.: I. M. Tikhonova.

PURPOSE: This collection of articles is intended for technical personnel, foremen, and skilled workmen of foundries. It may also be of use to staff members engaged in the mechanization of production operations.

COVERAGE: The collection contains articles discussing the experience of a number of Leningrad plants and engineering and design organizations in mechanizing foundry processes and in applying advanced techniques to the manufacture of castings. No personalities are mentioned. Some

Card 1/5

articles are accompanied by references. References are all Soviet.

TABLE OF CONTENTS:

Mechanization and Advanced (Cont.) SOV/5648

AVAILABLE: Library of Congress (TS233. S55)

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VK/wrc/bc
11-15-61

S/118/62/000/005/001/001
D234/D308

AUTHORS: Gol'berg, I.G., Sverdlov, V.I., Engineers, and Shub, I.Ye., Candidate of Technical Sciences

TITLE: An automated department for casting under pressure

PERIODICAL: Mekhanizatsiya i avtomatizatsiya proizvodstva, no. 5, 1962, 4 - 6

TEXT: Description of the department for casting zinc alloys and brass, designed by Gipropribor and NIITMASh Leningradskogo sovnarkhoza jointly with Leningradskiy karbyuratornyy zavod (Leningrad Carburetor Plant) and now under construction at the latter. Magnetohydrodynamic pumps for proportioning and transporting metal were designed at the Institute of Physics of the Latvian Academy of Sciences and by TsKTB. In the section of zinc alloys liquid metal is fed directly to the batchers through a pipeline and the pump secures constant pressure. Automatic control system is based on the principle of controlling coltage supplied to the windings of pump,

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S/118/62/000/005/001/001
An automated department ... D234/D308

and is contactless and without relays. In the brass casting section liquid metal is transported by accumulator trolleys. Automatic transport inside the department, automatic control of temperature in all parts of the pipeline etc., are also provided. There are 3 figures.

Card 2/2

BOGDANOV, V.N.; LIPNITSKY, A.M.; RUSSIYAN, S.V.; SVERDLOV, V.I.; STEPANOV, N.P.; VYSHEMIRSKIY, M.M., inzh., retsenzent

[Design of fully mechanized automated iron foundries] Proektirovanie kompleksno mekhanizirovannykh i avtomatizirovannykh chugunoliteinykh tsekhov. Pod red. S.V.Russiiana. Moskva, Mashinostroenie, 1964. 322 p. (MIRA 17:10)

SVERDLOV, V.S., TSINZERLING, V.D.

Disorders in the cleansing function of the bronchi & their effects on the process of secondary pulmonary tuberculosis [with summary in English]. Trudy LSGMI 41:67-80 '58 (MIRA 11:11)

(TUBERCULOSIS, PULMONARY, compl.
bronchial dysfunct., causing new tuberc. foci & other compl. (Rus))
(BRONCHI, dis.
dysfunct. causing new tuberc. foci & other compl. in pulm. tuberc (Rus))

SHAPIRO, I.L., inzh.; TUSHKANOV, B.A., inzh.; SVERDLOV, V.Ya., inzh.

A.C. locomotives. Vest. elektroprom. 32 no.5:13-17 My '61.
(MIRA 15:5)

(Electric locomotives)

BABIN, A.S.; SVERDLOV, V.Ya.

Regenerative braking system of the N80 electric locomotive. Sbor. nauch. trud. EINII 2:13-23 '62. (MIRA 16:8)

(Electric locomotives--Brakes)

ZOLOTAREV, P.A., inzh.-konstruktor; KOZOREZOV, M.A., inzh.-konstruktor; MELIKHOV, V.L., inzh.-konstruktor; NOVOGRENKO, N.M., inzh.-konstruktor; SVERDLOV, V.Ya., inzh.-konstruktor; Tushkanov, B.A., inzh.-konstruktor; SHAPIRO, I.L., inzh.-konstruktor

The N81 eight-axle a.c. locomotive. Elek.i tepl.tiaga 7 no.2:20-25 F '63. (MIRA 16:2)

(Electric locomotives)

ZOLOTAREV, P.A., inzh.-konstruktor; KOZOREZOV, M.A., inzh.-konstruktor; MELIKHOV, V.L., inzh.-konstruktor; NOVOGRENKO, N.M., inzh.-konstruktor; SVERDLOV, V.Ya., inzh.-konstruktor; TUSHKANOV, B.A., inzh.-konstruktor; SHAPIRO, I.L., inzh.-konstruktor

VL80 eight-axle a.c. locomotive. Elek. i tepl. tiaga 7 no.4: 24-28 Ap '63. (MIRA 16:5)

1. Novocherkasskiy elektrovozostroitel'nyy zavod i Novocherkasskiy nauchno-issledovatel'skiy institut elektrovozostroyeniya.
(Electric locomotives)

ALIKIN, R.I.; GORDIYENKO, P.I.; BESPROZVANNYY, I.G.; ZHIBTSOV, P.P.; ZOLOTAREV, P.A.; ZUSMANOVSKAYA, L.L.; IBRAGIMOV, K.G.; KOZOREZOV, M.A.; KOKOREV, A.T.; KUPRIANOV, Yu.V.; KUROCHKA, A.L., kand. tekhn. nauk; LITVINOVA, L.M.; LOZANOVSKIY, A.L., kand. tekhn. nauk; MAVDRIKOV, F.I.; MAKHAN'KOV, L.V.; PUKALOV, V.I.; RAYLYAN, A.F.; SVERDLOV, V.Ya.; SKLYAROV, B.S.; SOLOV'YEV, K.M., kand. tekhn. nauk; STUKALKIN, A.N.; SUROVIKOV, A.A.; TIKHONOV, N.G.; SHTEPENKO, P.K.; YANOV, V.P.

[VL80 electric locomotive.] Electrovoz VA80. Novocherkassk. Nauchno-issledovatel'skii institut elektrovozostroeniia. Sbornik nauchnykh trudov, vol. 5) (MIRA 18:5)

BALDINA, A.L.; SVERDLOV, Ya.G.

Calcium chlorine waters in the Kama portion of Perm Province.
Trudy VNIGNI no.13:286-294 '59. (MIRA 13:1)
(Perm Province--Water, Underground)

SVERDLOV, Ya.G. (Perm'); DUBININ, I.A. (Gor'kiy); YAZAN, Yu.P.

Snowfall following warm weather. Priroda 49 no.5:126-127 My '60. (MIRA 13:5)

1. Pechoro-Ilychskiy zapovednik, Komi ASSR (for Yazan).
(Snow)

VASILEVSKIY, V.L.; SVERDLOV, Ye.D.; FEDOSEYEV, V.M.; SILAYEV, A.B.

Interaction of thiourea with α-bromobutyric acid. Part 1: Effect of solvents on the reaction rate. Zhur.ob.khim. 33 no.7: 2397-2401 Jl '63. (MIRA 16:8)

1. Moskovskiy gosudarstvennyy universitet.
(Urea) (Solvents) (Butyric acid)

SVERDLOV, Ye.D.; VASILEVSKIY, V.L.; FEDOSEYEV, V.M.; SILAYEV, A.B.

Reaction of thiourea with α-bromobutyric acid. Part 2: Characteristics of the reaction taking place at low concentrations of initial substances. Zhur.ob.khim. 33 no.10: 3373-3378 O '63. (MIRA 16:11)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.

SVERDLOV, Ye.N., inzhener.

The BTK-2 light-weight tubular tower crane. Mekh.stroi. 13 no.2: 30-32 F '56. (MLRA 9:5)

(Cranes, derricks, etc.)

SVERDLOV, Ye.N., inzh.; TSELIGOROV, Ye.V., inzh.

Modernizing SBK-1 tower cranes. Mekh.stroi. 14 no.6:24-26 Je '57.
(MIRA 10:11)

(Cranes, derricks, etc.)

SVERDLOV, E.N.

AUTHOR: Sverdlov, E.N., Engineer 100-7-6/11

TITLE: The Use of Cranes SBK-1M which have a Pivoted Mechanism (Iz opyta ekspluatatsii kranov SBK-1M s povorotnym ustroystvom)

PERIODICAL: Mekhanizatsiya Stroitel'stva, 1957, Vol.14, No.7, pp. 19 - 21 (USSR).

ABSTRACT: Building cranes used to be transported from one site to the next on rails of large diameter curvature. In the case of gantry cranes with double-wheeled undercarriages, the smallest radius of turning is limited by the transverse displacement of the undercarriage. Fig. 1 shows the ratio of the transverse displacement of the wheels and the radius of the curvature of the inner wheel for various types of cranes. These curves show that the radius of turning is rather large. If the above cranes are equipped with a pivoted mechanism with 2 pivoted brackets (СБК-1М) then the turning radius can be reduced to 7 m. Fig. 2 shows the diagram of a pivoted undercarriage designed by Proyektmekhanizatsiya of Glavmosstroy and manufactured by Trust no.5 of Mosstroymekhanizatsiya and the Moscow Factory for Gantry Cranes. 2 tons of steel are needed for these undercarriages. The assembly of such a pivoted undercarriage is shown (Fig.3). The efficiency of these new devices was proved during the

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100-7-6/11

The Use of Cranes SBK-1M which have a Pivoted Mechanism

construction of an estate in SW Moscow when only 18 new cranes were required instead of 22 old cranes. The Construction Bureau of Proyektstroymekhanizatsiya (now SBK Mosstroy) has also designed similar undercarriages for the crane BKCM-5-5A and it is foreseen to equip the cranes BKCM-14, CBK-2 and others with undercarriages.
There are 3 figures.

AVAILABLE: Library of Congress
Card 2/2 1. Cranes-Design 2. Cranes-Operation

SVERDLOV, Yu. L.

Category : USSR/Radiophysics - Radio-wave reception I-7

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 1933

Author : Zhabotinskiy, M.Ye., Sverdlov, Yu.L.
Inst : Inst. of Radio Engineering and Electronics, Academy of Sciences USSR
Title : On the Action of an Amplitude Limiter

Orig Pub : Radiotekhn. i elektronika, 1956, 1, No 2, 205-212

Abstract : The amplitude limiter is represented as a combination of a nonlinear element, having a Z-shaped characteristic, with a narrow-band filter. In the analysis of the circuit, account is taken of the transfer capacitance that shunts the nonlinear element. The presence of this capacitance always causes ordinary limiters to produce parasitic amplitude and phase modulation of the output signal. The effectiveness of limiter action is therefore characterized most fully by a reduction in the sideband components in the output-signal spectrum. For each limiter, there exists an optimum input-signal amplitude, yielding either a maximum reduction in the sideband component, or a maximum reduction in the amplitude modulations (these two maxima do not coincide).

Simple equations are cited for the calculation of both the optimum amplitudes and of the reductions in the sideband components in the output-signal spectrum. It is shown that the usual amplitude characteristics of limiters do not

Card : 1/2

Sverdlov, Yu. L.

109-8-15/17

AUTHORS: Zhabotinskiy M.Ye., Zolin, V.F., Sverdlov, Yu.L.

TITLE: Letter to the Editor: Reduction of the Doppler Width of the Spectral Lines. (Pis'ma v redaktsiyu: Ob umen'shenii Dopplerovskoy shiriny spektral'nykh liniy)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol.II, Nr 8, p.1082 (USSR)

ABSTRACT: It is pointed out that the Doppler width reduction as estimated by R.H.Dicke (1) by means of his formula (see equation 1) is incorrect. The formula should be modified into the expression:

$$\frac{\Delta\nu}{\Delta\nu_D} = 1.65\,\frac{m_1 + m_2}{m_2}\,\frac{L}{\lambda} \qquad (1')$$

where m_1 and m_2 are the atomic weights of the investigated and the auxiliary gases respectively, L is the mean free path and λ is the length of the electromagnetic wave. The authors express gratitude to M.I.Rodak for his valuable remarks.

Card 1/2

109-8-15/17

Letter to the Editor: Reduction of the Doppler Width of the Spectral Lines.

There are 2 references, 1 of which is Slavic.

ASSOCIATION: The Institute of Radio Engineering and Electronics of the Soviet Ac. of Sciences. (Institut Radiotekhniki i Elektroniki AN SSSR)

SUBMITTED: June 12, 1957.

AVAILABLE: Library of Congress.

Card 2/2

SVERDLOV, YU. L.

Yu. L. Sverdlov, "Multistage frequency multiplier with small sideband components in the output oscillation spectrum." Scientific Session Devoted to "Radio Day", May 1958, Trudrezervizdat, Moscow, 9 Sep 58.

A method of computing the spectral composition at the output of a multistage frequency multiplier is proposed. General requirements on the system of current pulses in each stage, which would exclude amplitude and phase modulation when satisfied, are formulated. A new multiplier stage circuit is proposed which would permit such pulses to be obtained. A multistage multiplier consisting of such stages has very small sideband components in the output oscillation spectrum.

VASNEVA, G.A.; GRIGOR'YANTS, V.V.; ZHABOTINSKIY, M.Ye.; KLYSHKO, D.N.; SVERDLOV, Yu.L.; SVERCHKOV, Ye.L.

Circuit for comparing the frequencies of quartz and molecular oscillators. Izv.vys.ucheb.zav.; radiofiz. 1 no.2:185-187 '58. (MIRA 11:11)

1. Institut radiotekhniki i elektroniki AN SSSR.
(Oscillations)

SOV-109-3-4-20/28

AUTHORS: Vasneva, G. A., Grigor'yants, V. V., Zhabotinskiy, M. Ye., Klyshko, D. N., Sverdlov, Yu. L. and Sverchkov, Ye. I.

TITLE: Frequency Standard with a Molecular Oscillator (Reper chastoty s molekulyarnym generatorom)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol.3, Nr 4, pp 569-570 (USSR)

ABSTRACT: Description and block diagram are given of a molecular oscillator which was employed for the calibration of quartz crystals operating at a frequency of 1 Mc/s. The frequency of the oscillator was compared with the 23,368th harmonic of the frequency of the investigated crystal and an accuracy better than 10^{-9} was attained. There is 1 figure and 2 references, one of which is Soviet and 1 English.

ASSOCIATION: Institut radiotekhniki i elektroniki AN SSSR (Institute of Radio Engineering and Electronics of the AS USSR)

SUBMITTED: December 3, 1957

1. Oscillators--Applications 2. Quartz crystals--Calibration

Card 1/1

SOV/109-3-7-11/23

AUTHOR: Sverdlov, Yu. L.

TITLE: New Circuit for a Multistage Frequency Multiplier (Novaya skhema kaskada mnogokaskadnogo umnozhitelya chastoty)

PERIODICAL: Radiotekhnika i elektronika, 1958, Vol 3, Nr 7, p 954 (USSR)

ABSTRACT: Two new circuits which are suitable for frequency multiplication at low and high radio frequencies are shown in Figs.2 and 3 respectively. The circuits differ from the standard multiplier in that they have an anode network which is described by a third-order differential equation. If the parameters of the networks and the cut-off angle of the tube are properly chosen the output waveform is as shown in Fig.1; if this is applied to another multiplier stage, no amplitude modulation will be obtained, since the stage cuts off the tops of the positive semicycles. The author expresses his gratitude to M. Ye. Zhabotinskiy for his valuable advice. There are 3 figures and 1 Soviet reference.

SUBMITTED: March 20, 1958.

1. Frequency multipliers--Circuits 2. Electric circuits--Design

Card 1/1

Я. И. Хургин

Ширина спектральных линий импульсных автоколебаний.

В. Л. Герман

О вихревых движениях в релятивистской гидродинамике и в магнитной гидродинамике.

10 июня
(с 18 до 22 часов)

Г. М. Уткин

Полигармонические режимы в многоконтурных автоколебательных системах и генераторах повышенной стабильности частоты.

Г. Ш. Кевлишвили

К теории устойчивости автоколебаний.

М. Е. Герценштейн,
В. Е. Кисбер

Фазовые соотношения в одноконтурном параметрическом усилителе.

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О свободных колебаниях в нелинейном контуре с емкостью p—n перехода.

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О существовании предельного цикла в некоторых автоколебательных системах.

11 июня
(с 10 до 16 часов)

А. М. Половковский

Новые способы синхронной модуляции и синхронного детектирования.

М. Е. Жаботинский,
Ю. Л. Свердлов

Многокаскадные умножители частоты.

Ю. Д. Зернов

Об одном способе построения [illegible] многочастотного возбудителя

В. А. Хазов

О комбинационных продуктах в преобразователе частоты.

11 июня
(с 18 до 22 часов)

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report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNORIE), Moscow, 8-12 June. 1959

AUTHOR: Sverdlov, Yu.L. SOV/109-4-6-6/27

TITLE: A Method of Calculating the Amplitude and Phase Modulations in a Multi-stage Frequency Multiplier (Metod rascheta amplitudnoy i fazovoy modulyatsiy v mnogokaskadnom umnozhitele chastoty)

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 6, pp 951 - 959 (USSR)

ABSTRACT: It is assumed that the k-th stage of a multi-stage multiplier consists of an electron tube operating in the class C and having a resonant tank in its anode circuit (Figure 1). The tube can be represented by an equivalent current pulse generator having an infinite internal resistance. The steady-state response of the linear circuit to a periodic function i(t) having a period T_o can be calculated from (Ref 5):

$$U_{CT}(t) = \frac{1}{2\pi j}\int_{c-j\infty}^{c+j\infty} I_{T_o}(p)Y(p)e^{pt}dp = \frac{1}{2\pi j}\oint_L \frac{I_{T_o}(p)Y(p)}{1 - e^{-pT_o}} e^{pt}dp \quad (2),$$

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A Method of Calculating the Amplitude and Phase Modulations in a Multi-stage Frequency Multiplier

Eq (2) is valid for the time interval $0 < t < T_o$. The quantity $Y(p)$ in Eq (2) represents the transfer coefficient of the linear circuit, $I_T(p)$ is the transform of the function $i(t)$ over the period T_o. When the function $i(t)$ can be represented as a periodic train of normalised δ-pulses, the steady-state response of the multiplier stage can be determined from Eq (3). For the k-th stage, having a resonant tank in the anode, the transfer function is given by Eq (4) and the integral of Eq (3) leads to Eq (5). In this, the parameters b_q and λ_q represent the modulus and the phase of the complex quantity J_T. These parameters are defined by Eq (6). The remaining parameters of Eq (5) are defined by Eqs (7). The formulae are employed to investigate the phase modulation in a two-stage multiplier. The device was also investigated experimentally by employing the measuring circuit represented in Figure 6. The experimental results

A Method of Calculating the Amplitude and Phase Modulations in a Multi-stage Frequency Multiplier

are illustrated in Figures 3 and 4. It was found that the formulae are in good agreement with the experiment. The author expresses his gratitude to M.Ye. Zhabotinskiy for directing this work, to V.G. Pol' and N.G. Shudneva for a number of valuable remarks and to A.P. Pankrashin for constructing the experimental equipment. There are 6 figures, 1 table and 7 references, 5 of which are Soviet and 2 English.

SUBMITTED: February 24, 1958

SVERDLOV, Yu. L., Cand Tech Sci (diss) -- "Multi-cascade frequency amplifiers". Moscow, 1960, 11 pp (Acad Sci USSR, Inst of Radio Engineering and Electronics), (KL, No 11, 1960, 134)

33790
S/108/62/017/002/005/010
D201/D305

9.3280 (1147, 1159)

AUTHORS: Zhabotinskiy, M.Ye., and Sverdlov, Yu.L., Members of the Society (see Association)

TITLE: Design of a multi-stage frequency multiplier

PERIODICAL: Radiotekhnika, v. 17, no. 2, 1962, 31 - 41

TEXT: The authors consider a novel frequency multiplier circuit, based on the results of the previously published work of Sverdlov (Ref. 1: Radioteknnika i elektronika, v. 4, no. 7, 1958); (Ref. 2: Ibid., v. 4, no. 6, 1959). The basic frequency multiplying network consists of two stages: A multiplier stage having in its anode a circuit with one and a half degree of freedom (Ref. 1: Op.cit.) and a buffer class C stage with a single tuned circuit in the anode. When oscillations having frequency f are applied to this network, these oscillations are in practice transformed into oscillations having a frequency nf. The high degree of filtering is achieved not due to the use of narrow band filters, but owing to the utilization of certain specific non linear effects, best illustrated when con-

Card 1/5

Design of a multi-stage frequency ...

rations discussed and design parameters given. Such circuits have been proposed by Yu.L. Sverdlov (Author's certificate No. 124007 of September 3, 1957) but so far have not found many applications. The formulas derived were used for design and construction of a three stage $N_1 = 5 \times 5 \times 4 = 100$ and of a six stage $N_2 = 5 \times 5 \times 4 \times 3 \times 2 \times 88 = 52800$ multiplier. In the last amplifier $n_6 = 88$ stage was designed around a germanium detector using standard multiplication techniques. The experiment showed good agreement with the theory. The side band components in the output wave spectrum were 1×10^{-5} of the fundamental amplitude (calculated value 0.77×10^{-5}) for the three-stage multiplier and were 50 db down (theoretical value -48 db) in the 6-stage multiplier. When the 3 stage multiplier was designed around the normal resonant circuit stages, the side band spectrum components were 10^{-1} of the fundamental. The noise meter ИП-12-М (IP-12-M) which in fact is nothing else, but a calibrated wave analyzer was used for tuning the separate ccts and the multiplier as a whole. Since all stages are tuned to different frequency, the stability is determined by the stability of each stage separately. The most critical is, of course, the last stage, tuned

Card 3/5

Design of a multi-stage frequency ...

to the highest frequency; it is stable up to 100 - 150 mC/s with tubes having $C_{ag} \cong 2 \times 10^{-2}$ nF and gm $\cong$ 5 mA/V. In the appendix the authors give a table of practical design formulas for the k-th stage of a multi-stage frequency multiplier using the same type of tubes throughout. There are 2 tables, 7 figures and 6 Soviet-bloc references.

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A.S. Popova (Scientific and Technical Society of Radio Engineering and Electrical Communications imeni A.S. Popova) [Abstractor's note: Name of Association taken from first page of journal]

SUBMITTED: October 28, 1960 (initially)
October 25, 1961 (after revision)

Card 4/5

ZHABOTINSKIY, M.Ye.; SVERDLOV, Yu.L.

All-union "radio day". Radiotekhnika 19 no.5:3-4 My '64.

Phase instability of multistage frequency multipliers. Ibid.:5-16
(MIRA 17:6)

1. Deystvitel'nyye chleny Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi imeni Popova.

ACCESSION NR: AP4038597 S/0108/64/019/005/0005/0016

AUTHOR: Zhabotinskiy, M. Ye. (Active member); Sverdlov, Yu. L. (Active member)

TITLE: Phase instability of multistage frequency multipliers

SOURCE: Radiotekhnika, v. 19, no. 5, 1964, 5-16

TOPIC TAGS: frequency multiplication, frequency multiplier, multistage frequency multiplier, frequency multiplier phase instability

ABSTRACT: The intrinsic phase instability of a multistage frequency multiplier; i.e., the instability of a real multiplier placed under ideal external conditions (including excitation by an absolutely stable oscillator), is regarded as a measure of multiplier phase instability. Its maximum is described by:

$$\psi_0 = \sqrt{\sum_{\kappa=1}^{s} \frac{\delta\psi_\kappa^2}{n_1 n_2 \ldots n_\kappa}}.$$

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ACCESSION NR: AP4038597

The general problem is thereby reduced to a particular problem of determining the dispersion of phase of k-th stage $\overline{\delta\psi_k^2}$. A quasi-statistical method is used for determining ψ_0. Evaluation of phase instability by the conventional two-channel experimental method is, in fact, a determination of the intrinsic phase instability ψ_0. "In conclusion, the authors wish to sincerely thank Corresponding Member of AN SSSR Yu. B. Kobzarev and Doctor of Physico-Mathematical Sciences Ya. I. Khurgin for their repeated participation in discussions of this problem." Orig. art. has: 6 figures and 35 formulas.

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi (Scientific and Technical Society of Radio Engineering and Electrocommunication)

SUBMITTED: 30Dec63 DATE ACQ: 09Jun64 ENCL: 00

SUB CODE: EC NO REF SOV: 009 OTHER: 003

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Zhabotinskiy, Mark YEfremovich.; Sverdlov, YUriy L'vovich

Fundamentals of theory and technique of frequency multiplication. Moscow, Izd-vo [illegible], [illegible], 16,150 copies printed.

TOPIC TAGS: frequency multiplication, frequency multiplier, single stage frequency multiplier, multistage frequency multiplier, frequency multiplier phase fluctuation, multiplier circuit characteristic, parametric amplifier, electron tube characteristic, multiplier circuitry

PURPOSE AND COVERAGE: This book is intended for radio engineers concerned with the design and application of frequency on multipliers and for aspirants and students in radio engineering schools of higher education. The problem of frequency multiplication and different variants of multipliers are discussed. The design and

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application of single- and multistage frequency multipliers, including those utilizing new types of multiplying elements and parametric multiplier are covered. Phase fluctuations in m - stage multipliers are analyzed in detail. Formulas for deri.ing various types of frequency multipliers are derived.

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SUB CODE: SUBMITTED: 16Nov64 NO REF SOV: 046

OTHER:

Card 6/6

SVERDLOV, Yu.M.

Contusions and sprains. Zdorov'e 4 no.10:30-31 O'58 (MIRA 11:11)
(WOUNDS)
(SPRAINS)

SVERDLOV, Yu.M., kand.med.nauk

Treatment of open dislocations of the foot. Ortop.travm. i protez. 20 no.2:23-26 F '59. (MIRA 12:12)

1. Iz TSentral'nogo instituta travmatologii i ortopedii (dir. - deystvitel'nyy chlen AMN SSSR prof. N.N. Priorov).
(FOOT, disloc.
open surg. (Rus))

SVERDLOV, Yu.M., kand.med.nauk

Combined treatment of extensive severe burns. Ortop.travm.i protez. 20 no.8:68-69 Ag '59. (MIRA 12:11)

1. Iz TSentral'nogo instituta travmatologii i ortopedii (dir. - deystvitel'nyy chlen AMN SSSR prof. N.N. Priorov).
(BURNS AND SCALDS)

SVERDLOV, Yu.M., kand.med.nauk

Apparatus for correcting intertibial diastases of fragments in malleolar fractures. Khirurgiia 37 no.3:127-130 Mr '61.
(MIRA 14:3)

1. Iz TSentral'nogo instituta travmatologii i ortopedii (dir. - deystvitel'nyy chlen AMN SSSR prof. N.N. Priorov) Ministerstva zdravookhraneniya SSSR.
(ANKLE JOINT—FRACTURE)

SVERDLOV, Yu.M., kand.med. nauk (Moskva, Bol'shaya Gruzinskaya ul., d. 21/2, kv.70)

Arbitrary subluxation of the shoulder. Ortop. travm. i protez. 24 no.2:68-71 F'63. (MIRA 16:10)

1. Iz TSentral'nogo instituta travmatologii i ortopedii (dir. - prof. M.V.Volkov).

*

SVERDLOV, Yu.M., kand. med. nauk (Moskva D-56, Gruzinskiy pereulok, dom 15/18, kvartira 90)

Surgical treatment of closed injuries of musculus biceps brachii in the light of late results. Ortop., travm. i protez. 26 no.3: 51-53 Mr '65. (MIRA 18:7)

1. Iz TSentral'nogo instituta travmatologii i ortopedii (dir. - chlen-korrespondent AMN SSSR prof. M.V.Volkov), Moskva.

MIKHAYLOV, V.V.; SVERDLOV, Yu.S. (Moskva)

Method for conducting laboratory studies in pathological physiology on experimentally induced excitation transmission disorders in the intranural cardiac apparatus. Pat.fiziol i eksp.terap. 1 no.6: 53-55 N-D '57. (MIRA 11:3)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. A.D.Ado) II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova.

(HEART BLOCK, experimental, intramural conduction disord. (Rus))

MIKHAYLOV, V.V.; SVERDLOV, Yu.S. (Moskva)

Mechanism of parasympathetic disorders of the action on the heart in experimental tetanus. Arkh. pat. 22 no. 10:59-65 '60. (MIRA 13:12)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. A.D. Ado) II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova.
(TETANUS) (NERVOUS SYSTEM, PARASYMPATHETIC) (HEART)

SVERDLOV, Yu.S.

Reflex activity of the spinal cord in localized tetanus (electrophysiological investigation). Fiziol.zhur. 46 no.8:941-947 Ag '60. (MIRA 13:8)

1. From the Chair of pathological physiology, Pirogov Second Medical Institute, Moscow.

(SPINAL CORD) (TETANUS)

SVERDLOV, Yu. S.

Cand Med Sci - (diss) "Mechanism of the action of tetanic toxin on the nervous system." Moscow, 1961. 15 pp; (Academy of Medical Sciences USSR, Inst of Normal and Pathological Physiology); 250 copies; free; (KL, 6-61 sup, 240)

SVERDLOV, Yu. S.

"Action of Tetanus Toxin upon Inhibitory mechanisms in the Spinal Cord of the Cat."

Report presented at the 2nd International Pharmacological meeting in PRAGUE, 20-23 Aug 63."

SVERDLOV, Yu.S.; BURLAKOV, G.V.

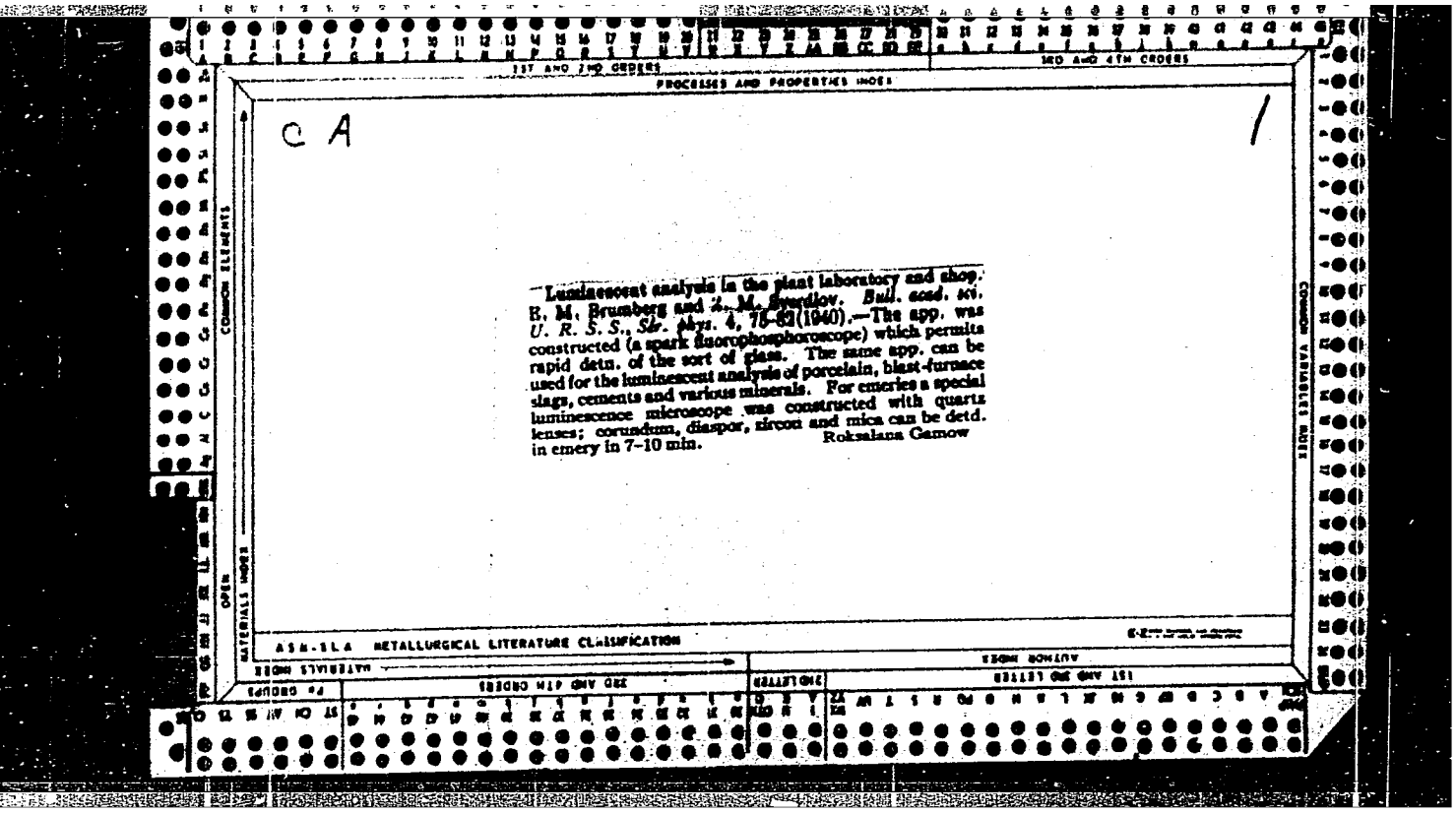
Inhibition processes in the spinal cord in cats with local tetanus. Fiziol. zhur. 51 no.1:90-98 Ja '65. (MIRA 18:7)

1. Kafedra patologicheskoy fiziologii II Moskovskogo meditsinskogo instituta imeni Pirogova.

SVERDLOV, Ya.S.; ALEKSEYEVA, V.I.

Suprasegmental inhibition of intercalary spinal neurons in cats with local tetanus. Dokl. AN SSSR 163 no.5:1289-1292 Ag '65. (MIRA 18:8)

1. Vtoroy Moskovskiy meditsinskiy institut im. N.I.Pirogova. Submitted October 27, 1964.

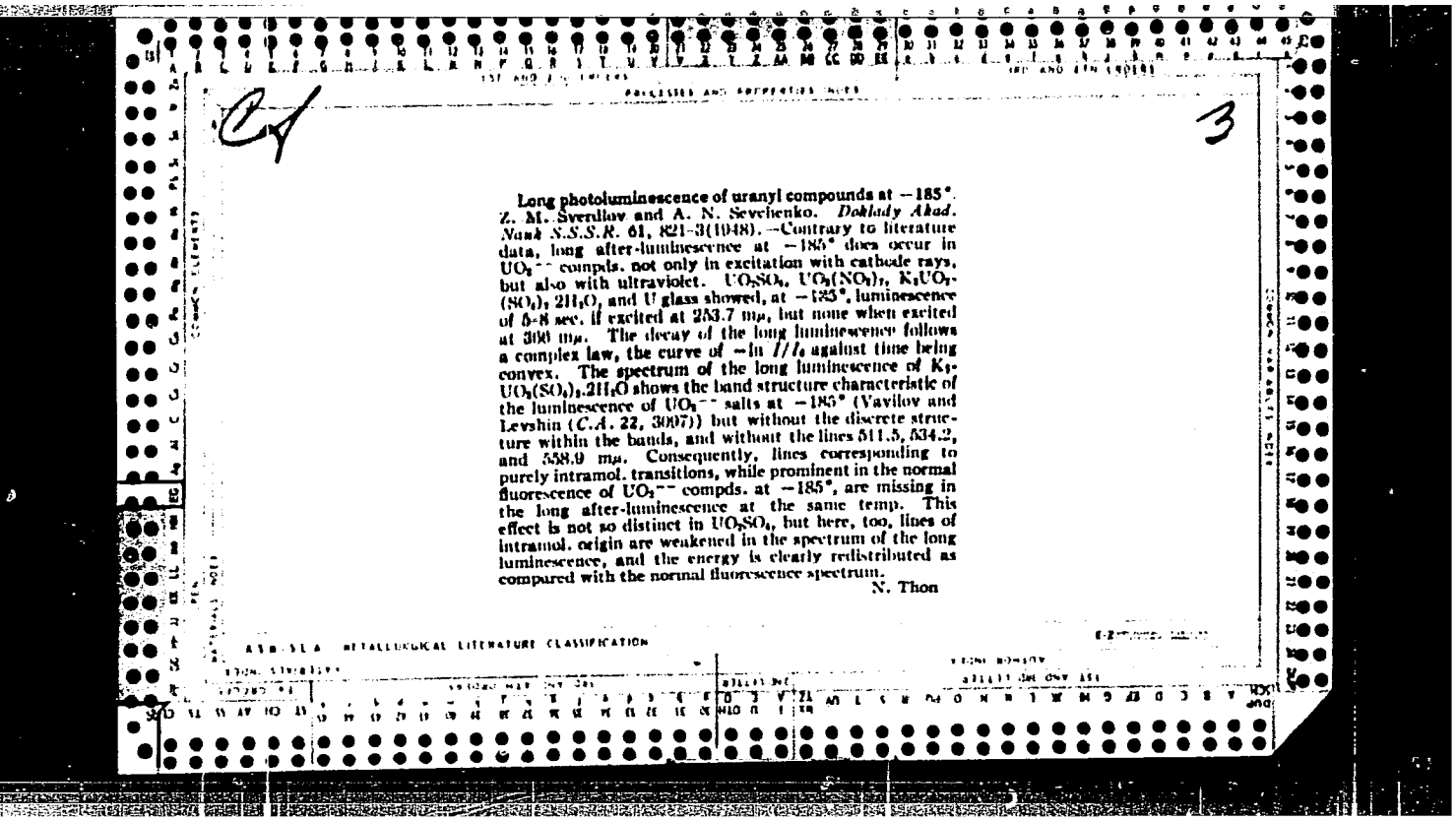


—Luminescent analysis in the plant laboratory and shop. R. M. Brumberg and Z. M. Sverdlov. *Bull. acad. sci. U. R. S. S., Sér. phys.* 4, 75–82(1940).—The app. was constructed (a spark fluorophosphoroscope) which permits rapid detn. of the sort of glass. The same app. can be used for the luminescent analysis of porcelain, blast-furnace slags, cements and various minerals. For emeries a special luminescence microscope was constructed with quartz lenses; corundum, diaspor, zircon and mica can be detd. in emery in 7–10 min.

Roksalana Gamow

Luminescence method for detecting uranium minerals and ores. U. G. Melkov and Z. M. Sventsky (*Compt. rend. Acad. Sci. U.R.S.S.*, 1941, **31**, 361–362).—To obtain luminescent compounds from U-black, nasturan, and other ordinarily non-luminescent U ores, the minerals are sprayed with H_2SO_4, HNO_3, HCl, AcOH, or H_3PO_4. They then show luminescence when irradiated with short λ ultra-violet. The method can be used for detecting U minerals.

A. J. M.



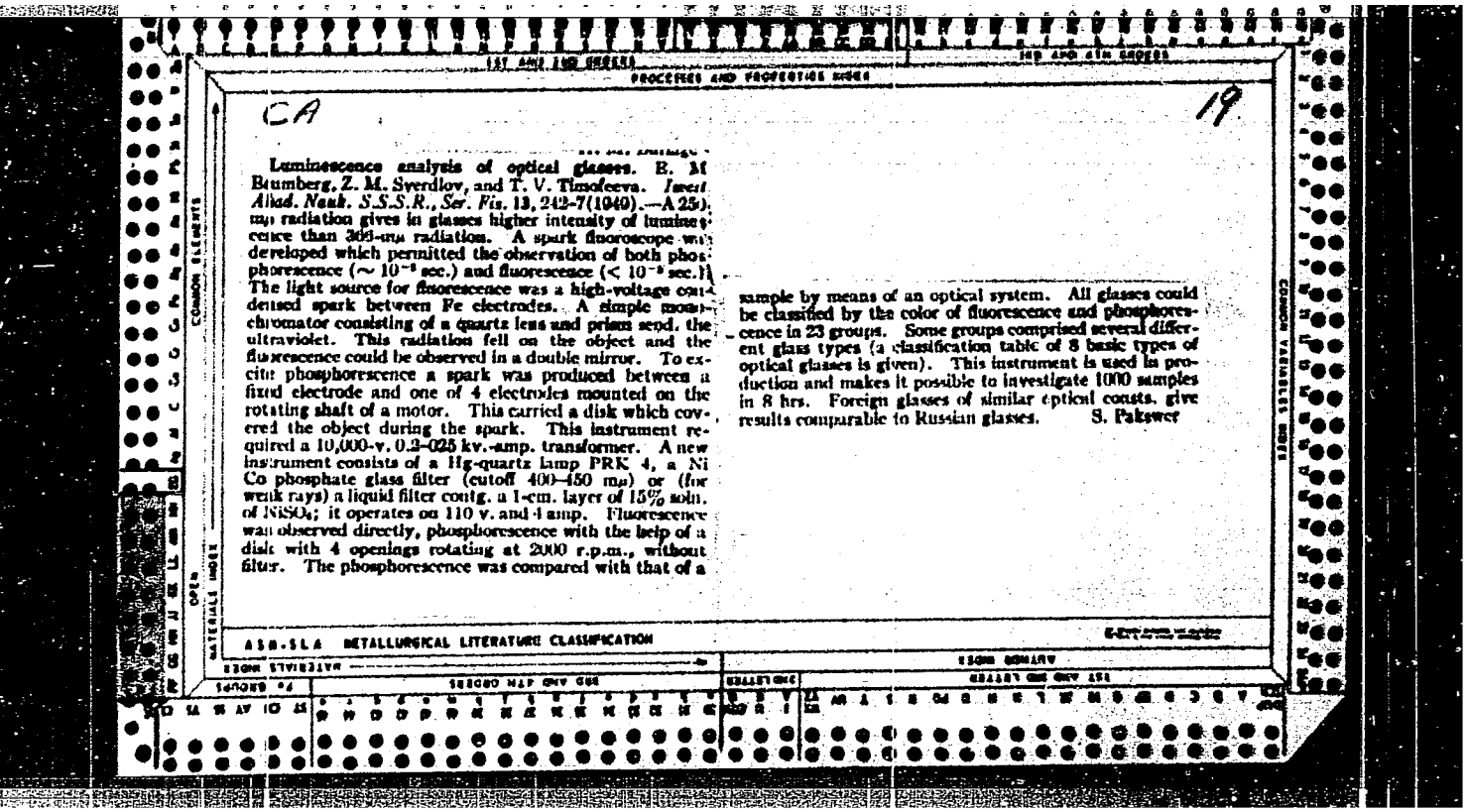
CA

3

Long photoluminescence of uranyl compounds at −185°. Z. M. Sverdlov and A. N. Sevchenko. *Doklady Akad. Nauk S.S.S.R.* 61, 821–3(1948).—Contrary to literature data, long after-luminescence at −185° does occur in UO_2^{++} compds. not only in excitation with cathode rays, but also with ultraviolet. UO_2SO_4, $UO_2(NO_3)_2$, $K_2UO_2(SO_4)_2 \cdot 2H_2O$, and U glass showed, at −185°, luminescence of 5–8 sec. if excited at 253.7 mμ, but none when excited at 366 mμ. The decay of the long luminescence follows a complex law, the curve of $-\ln I/I_0$ against time being convex. The spectrum of the long luminescence of $K_2UO_2(SO_4)_2 \cdot 2H_2O$ shows the band structure characteristic of the luminescence of UO_2^{++} salts at −185° (Vavilov and Levshin (*C.A.* 22, 3007)) but without the discrete structure within the bands, and without the lines 511.5, 534.2, and 558.9 mμ. Consequently, lines corresponding to purely intramol. transitions, while prominent in the normal fluorescence of UO_2^{++} compds. at −185°, are missing in the long after-luminescence at the same temp. This effect is not so distinct in UO_2SO_4, but here, too, lines of intramol. origin are weakened in the spectrum of the long luminescence, and the energy is clearly redistributed as compared with the normal fluorescence spectrum.

N. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



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19

Luminescence analysis of optical glasses. B. M Blumberg, Z. M. Sverdlov, and T. V. Timofeeva. *Izvest. Akad. Nauk. S.S.S.R., Ser. Fiz.* 13, 242-7(1949).—A 25), mμ radiation gives in glasses higher intensity of luminescence than 365-mμ radiation. A spark fluoroscope was developed which permitted the observation of both phosphorescence (~ 10^{-3} sec.) and fluorescence (< 10^{-8} sec.). The light source for fluorescence was a high-voltage condensed spark between Fe electrodes. A simple monochromator consisting of a quartz lens and prism sepd. the ultraviolet. This radiation fell on the object and the fluorescence could be observed in a double mirror. To excite phosphorescence a spark was produced between a fixed electrode and one of 4 electrodes mounted on the rotating shaft of a motor. This carried a disk which covered the object during the spark. This instrument required a 10,000-v. 0.2–025 kv.-amp. transformer. A new instrument consists of a Hg-quartz lamp PRK 4, a Ni Co phosphate glass filter (cutoff 400–450 mμ) or (for weak rays) a liquid filter contg. a 1-cm. layer of 15% soln. of $NiSO_4$; it operates on 110 v. and 4 amp. Fluorescence was observed directly, phosphorescence with the help of a disk with 4 openings rotating at 2000 r.p.m., without filter. The phosphorescence was compared with that of a sample by means of an optical system. All glasses could be classified by the color of fluorescence and phosphorescence in 23 groups. Some groups comprised several different glass types (a classification table of 8 basic types of optical glasses is given). This instrument is used in production and makes it possible to investigate 1000 samples in 8 hrs. Foreign glasses of similar optical consts. give results comparable to Russian glasses. S. Pakswer

CA

3

New method of investigation of the absorption and luminescence of micro objects at low temperatures. Z. M. Sveshnikov (State Optical Inst., Leningrad). *Doklady Akad. Nauk S.S.S.R.* 69, 333 (1949). Fogging of the micro objects in air is prevented by the use of a vacuum camera. The method is illustrated by absorption spectra of microcrystals of $UO_2SO_4.3H_2O$, $K_2UO_2(SO_4)_2.2H_2O$, and $Sm(NO_3)_3.6H_2O$, at −185°. N. Thon

1951

Investigation of Luminescence of Sodium Fluoride Activated with Uranium.

scope. Luminescence was excited with 366 mμ radiation. Fig.4 shows luminescence decay (log intensity against time) of the NaF-U bead (curve 2) and of uranyl potassium sulphate (curve 1). In the range from 10^{-4} to 1.4×10^{-3} sec luminescence decay of NaF-U is a bi-molecular process described by the formula $I = At^{-\alpha}$. Fig.5 shows curves of decay of total emission (curve 1) and of phosphorescence (curve 2) of NaF-U beads. This phosphorescence spectrum was obtained at room temperature 2×10^{-4} sec after excitation had ceased. Fig.5 shows that the total emission consists of 2 processes, one of which has a duration of the order of 10^{-5} sec, and the other - of the order of 10^{-3} sec. In the phosphorescent spectrum narrow bands were observed whose structure at room temperature is similar to the luminescence spectra of uranyl salts at liquid-air temperature. Figs. 6 and 7 represent dependence of the luminescence intensity of NaF-U beads on the content of Fe, V, Si and Al impurities. Iron is found to have a strong quenching effect, whilst

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intensity. The author describes a simplified method of chemical treatment of rock samples in preparation for quantitative determination of U in them. As a result of this chemical treatment a solution is prepared into which a pure NaF bead is dipped and then treated in a flame. Uranium content of such beads is then determined by means of a photometer ФЭФ-51 shown in Fig. 8. Such a photometer can be used under field conditions. The source of ultraviolet in this instrument was a mercury quartz lamp, marked 1 in Fig. 8. Visible light from the lamp is absorbed by means of a filter (11). The ultraviolet rays, after passing through a collector (3), and after reflection at mirror (2), are concentrated on two beads, one of which (5) serves as a standard for testing the other (4). Both the test and the standard beads are imaged at the exit pupil of the instrument. By means of 3 polaroids (9 and 10 in Fig. 8), brightness of the fields

Card 5/6

Investigation of Luminescence of Sodium Fluoride Activated with Uranium.

of the two beads is equalized by visual observation. Angle of rotation of the polaroid (10) is calibrated by means of standard beads containing known amounts of uranium. Such an instrument was found to be useful in geological work. There are 8 figures and 5 non-Slavic references.

(Vsesoyuznyy

Sverdlov, Z. M.

48-4-46/48

SUBJECT: USSR/Luminescence

AUTHOR: Sverdlov Z.M.

TITLE: Devices for Investigations of Crystallophosphor Luminescence (Apparatura dlya issledovaniya lyuminestsentsii kristallofosforov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1957, Vol 21 #4, pp 623-631 (USSR)

ABSTRACT: The Laboratory for Luminescence Analysis at the VSEGEI, the All-Union Scientific Research Geological Institute, and the "Geologorazvedka" Plant manufacture the following devices:

A. Devices for qualitative investigation of luminescence:

1. Luminescent analytic lamp LYuM-1,
2. Luminescent mineraloscope LYuM-2,
3. Field luminoscope "Polyus",
4. Universal field luminoscope PLS-53,
5. Field uranoscope PLS-55.

B. Devices for quantitative investigation of luminescence:

6. Luminescent colorimeter LYuKS-1,
7. Luminescent photometer LYuF-51,

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48-4-46/48

TITLE: Devices for Investigations of Crystallophosphor Luminescence (Apparatura dlya issledovaniya lyuminestsentsii kristallofosforov)

8. Field luminescent photometer LFS-54,
9. Photoelectric absorption meter FAS-1.

C. Device for investigation of luminescence spectra in minerals:

10. Luminescent microspectrometer LMS-1.

Short descriptions and characteristics of these devices are given. The article contains 10 photos of the above listed devices. The bibliography lists 4 references, all of them Slavic (Russian). The report was followed by a short discussion.

INSTITUTION: All-Union Scientific Research Geological Institute

PRESENTED BY:

SUBMITTED: No date indicated

AVAILABLE: At the Library of Congress.

Card 2/2

48-5-35/56

TITLE: Investigation of the Luminescence of Sodium Fluoride Activated by Uranium (Issledovaniye lyuminestsentsii ftoristogo natriya, aktivirovannogo uranom)

fluoride alloys with uranium. Admixtures of heavy metals (Fe, Cu, Mn, etc) greatly reduce the luminescence intensity.

6. Specific properties of the luminescence of these alloys made it possible to develop a simple method for quantitative determination of uranium concentration in minerals, ores and waters, and to apply extensively this method in geological practice.

The report was followed by a short discussion.

One Russian reference is cited.

INSTITUTION: All-Union Scientific Research Geological Institute

PRESENTED BY:

SUBMITTED: No date indicated

AVAILABLE: At the Library of Congress

Card 2/2

SVERDLOV, Z.M.; FEDOROVA, L.G.

New spectral method for the study of minerals. Fiz.sbor. no.4:381-387 '58. (MIRA 12:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut.
(Mineralogy, Determinative) (Spectrum analysis)

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S/048/61/025/004/024/048
B104/B201

AUTHOR: Sverdlov, Z. M.

TITLE: Application of photoelectric photometry to the study of luminescence of sodium fluoride activated with uranium

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, no. 4, 1961, 510-512

TEXT: The present paper has been read at the 9th Conference on Luminescence (Crystal Phosphors), Kiyev, June 20-25, 1960. The author developed the photoelectric photometer of the type ФАС-1 (FAS-1) to serve for uranium determination in sodium fluoride beads. The circuit diagram presented in Fig. 1 consists of a light source, a tube of the type УФО-4А (UFO-4A), an ФЭУ-19 (FEU-19) photomultiplier, a d-c amplifier, and a power-supply unit. The tube gives a Hg spectrum, and at 24-28 v has a current consumption of 300-350 ma. The photomultiplier has a Sb-Cs photocathode with a spectral sensitivity range of 3500-6000 A. The power-supply unit is voltage-stabilized. The optical scheme of the diagram is shown in Fig. 2. The ultraviolet radiation of tube 1 passes through light filters 2 and 3, and

Card 1/2

Application of...

is concentrated upon bead 4 by an Al mirror 5. By an aperture of the mirror, the luminescence radiation passes on to mirror 6, past filters 7 and 8, lens 9, and reaches photomultiplier 11. The apparatus was calibrated on beads with precisely known uranium contents. In beads weighing 4 mg it permits uranium contents to be determined in the range of $1 \cdot 10^{-9} - 1 \cdot 10^{-8}$ g. Indications in repeated measurements on one and the same bead were within 2 %. The instrument described here features facilities permitting such measurements to be performed on solutions; this being an advantage compared with the older instrument of the type ЛЮФ-57 (LYuF-57). A set of 10 interference filters gives the possibility of producing the spectral regions required for certain experiments. The series production is to begin in 1961. There are 3 figures and 4 references: 1 Soviet-bloc and 3 non-Soviet-bloc. The reference to the English-language publication reads as follows: Mary H., Fletcher, Irwing May, Morris Slavin, Collected Papers on Methods of Analysis for Uranium and Thorium. Geological Survey Bulletin, 1006, 85 (1954).

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut (All-Union Scientific Research Institute of Geology)

MARGOLIS, F. G., kand. tekhn. nauk; GLAZOVA, T. V.; SVERDLOVA, A. I.

Recent developments in the technology of complex fertilizers using the nitric acid treatment of phosphates. Zhur. VKHO 7 no.5:507-512 '62. (MIRA 15:10)

(Phosphates) (Nitric acid)
(Fertilizers and manures)

L 00708-66 EWA(h)/EWT(l)/EWT(m)/EWP(i)/EWP(b)/T/EWP(t) IJP(c) AT/JD/GS

ACCESSION NR: AT5020466 UR/0000/64/000/000/0199/0204

AUTHOR: Kir'yashkina, Z. I.; Sverdlova, A. M.

TITLE: Effect of the surface on the rectification and cathodic conductivity of zinc oxide films

SOURCE: Mezhvuzovskaya nauchno-tekhnicheskaya konferentsiya po fizike poluprovodnikov (poverkhnostnyye i kontaktnyye yavleniya). Tomsk, 1962. Poverkhnostnyye i kontaktnyye yavleniya v poluprovodnikakh (Surface and contact phenomena in semiconductors). Tomsk, Izd-vo Tomskogo univ., 1964, 199-204

TOPIC TAGS: zinc oxide, semiconducting film, surface property, rectification

ABSTRACT: The state of the surface is very important in studying the electric properties of semiconductor films. Some of the irregularities in the phenomenon of cathodic conductivity may be explained on the basis of surface states of the semiconductor. The authors study the effect of the surface on the properties of zinc oxide films in an attempt to explain the mechanism of cathodic conductivity. The films studied were 0.2-1 μ thick. Measurements showed that the average time for decay of induced conductivity were ~60 seconds in nitrogen, ~20 seconds in air, and ~4-5 seconds in oxygen. The effect of the ambient gaseous medium on the relaxation

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ACCESSION NR: AT5020466

of induced conductivity indicates that surface phenomena are an important factor in this case. Curves for resistance of ZnO as a function of time in various media are given in fig. 1 of the Enclosure. It is assumed on the basis of these results that the oxygen adsorbed on the surface of the film is removed when the films are irradiated by an electron beam in a vacuum. This hypothesis is experimentally confirmed. The zinc film was applied to a conducting substrate to study its rectifying properties. The rectification factor depends on the voltage, and is reduced from 28 to 10 when the voltage is increased from 1 to 8 volts. The highest rectification factor was 100 at 14 volts. The rectification factor was reduced by electron bombardment to values of the order of 1 for most specimens. It is assumed that the removal of the adsorbed oxygen by electron flux in a vacuum reduces the surface barrier. It is shown that rectification is independent of the material used for the lower electrode. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 05Oct64 ENCL: 01 SUB CODE: SS

NO REF SOV: 003 OTHER: 004

Card 2/3

L 00708-66

ACCESSION NR: AT5020466

ENCLOSURE: 01

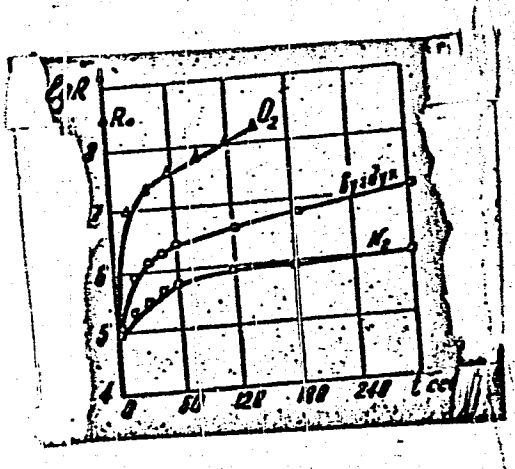

Fig. 1. Relationship between resistance in a zero film and time in atmospheres of various gases.

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KIR'YASHKINA, Z.I.; NOSOVA, V.A. [Nosova, V.O.]; LUCHANSKAYA, N.M. [Luchans'ka, N.M.]; ROKAKH, A.G. [Rokakh, O.H.]; SVERDLOVA, A.M. [Sverdlova, H.M.]

Characteristics of the cathode conductivity of cadmium sulfide films. Ukr. fiz. zhur. 9 no.3:343-344 Mr '64. (MIRA 17:9)

1. Saratovskiy gosudarstvennyy universitet im. Chernishevskogo.

L 12046-65 EWT(l)/EWG(k)/EWT(m)/T/EWP(t)/EEC(b)-2/EWP(b) Pz-6 IJP(c)/AFWL/
AFETR/AS(mp)-2/SSD/ESD(dp)/ESD(gs)/ESD(t) JD/GG/AT
ACCESSION NR: AP4045311 S/0048/64/028/009/1514/1515

AUTHOR: Sverdlova, A.M.; Rokakh, A.G. B

TITLE: Effect of medium energy electron bombardment on the conductivity of semiconductor films /Report, Tenth Conference on Cathode Electronics held in Kiev, 11-18 Nov 1963/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.9, 1964, 1514-1515

TOPIC TAGS: electron bombardment, semiconducting film, semiconductor conductivity, zinc oxide, cadmium sulfide

ABSTRACT: The effect of bombardment with 0 to 5 keV electrons on the conductivity of 0.4 to 0.8 micron ZnO and 0.4 to 4 micron CdS films was investigated. The ZnO films were prepared by vacuum evaporation of zinc onto glass and subsequent oxidation; the CdS films were prepared by direct vacuum evaporation of CdS. Contact with the films was secured by either metal or aquadag electrodes separated by 7 mm. The nature of the electrodes had no influence on the results. A 1.5 mm diameter 10^{-5} to 10^{-8} A beam from an electron gun was focused on the film, which was shielded from the light of the electron gun cathode. The measurements were performed at a pressure

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ACCESSION NR: AP4045311

of 10^{-5} mm Hg. Electron bombardment of the films produced a practically irreversible increase of the conductivity. A 10^{-5} A beam of 3 to 5 keV electrons increased the conductivity of the ZnO films by a factor 10^3 to 10^4, and that of the CdS films by a factor 10^4 to 10^5. The higher energy incident electrons were in general the more effective in increasing the conductivity of the films, but increasing the energy beyond 1 keV did not further increase the effect of the electrons on the ZnO films. The rectifying properties of ZnO films on a metal substrate were investigated; they were found to be greatly reduced or destroyed by electron bombardment. The effect of gases (N_2, air, H_2) on the electron bombardment induced conductivity was investigated; they ted. The induced conductivity was lost most rapidly in an oxygen atmosphere. The CdS films were bombarded with positive and negative ions. Positive ion bombardment decreased the conductivity; negative ion bombardment increased it. In interpreting the results it is suggested that adsorption of gases, particularly of oxygen, produces a deficiency of electrons in the surface layer, thus forming a surface barrier, that that electron bombardment lowers this barrier.

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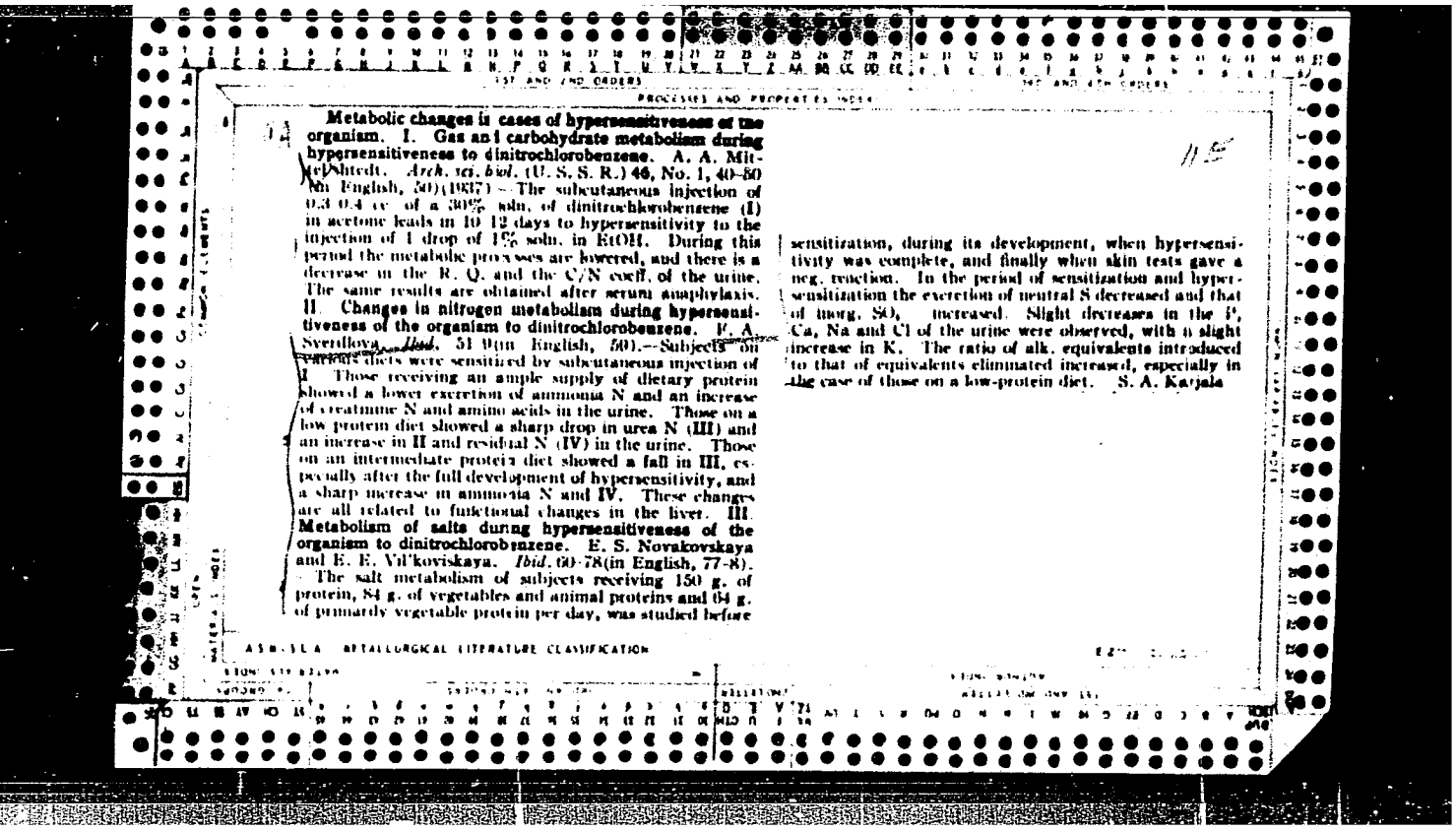
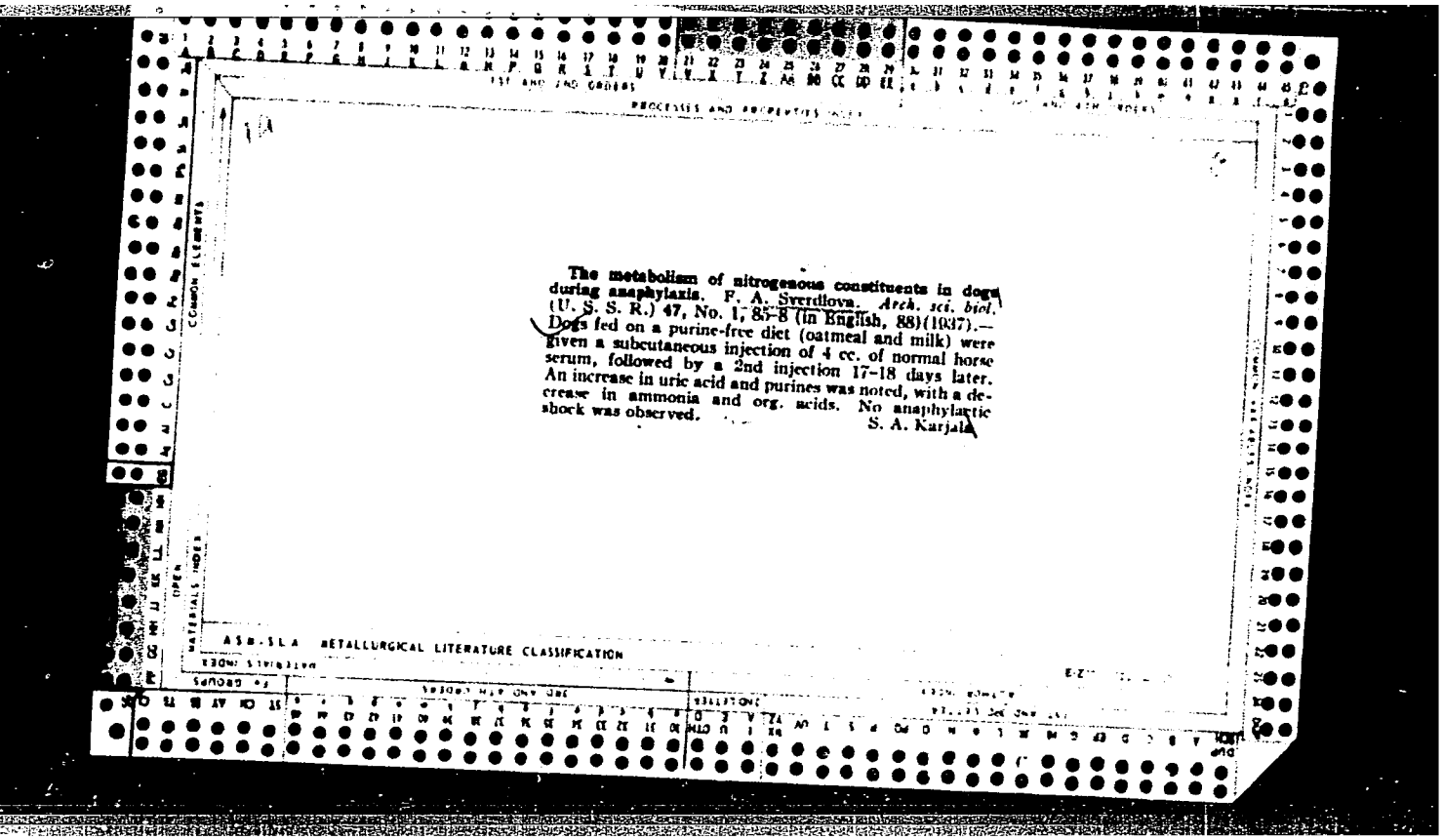
BILENKO, D.I.; DEMIDOV, V.K.; KOTELKOV, V.N.; NAZVANOV, V.F.; NOSOVA, V.A.; ORNATSKAYA, Z.I.; ROKAKH, A.G.; SVERDLOVA, A.M.; KAPSHTAL', G.G.; KIR'YASHKINA, Z.I., dots., red.; VINNIKOVA, I.A., red.

[Textbook for practical studies on the physics of semiconductors] Rukovodstvo k prakticheskim zaniatiiam po fizike poluprovodnikov; uchebnoe posobie. [Saratov], Saratovskii univ., 1964. 115 p. (MIRA 18:11)



Metabolic changes in cases of hypersensitiveness of the organism. I. Gas and carbohydrate metabolism during hypersensitiveness to dinitrochlorobenzene. A. A. Mitropol'skii. *Arch. sci. biol.* (U. S. S. R.) **46**, No. 1, 40–50 (in English, 50) (1937).—The subcutaneous injection of 0.3–0.4 cc. of a 30% soln. of dinitrochlorobenzene (I) in acetone leads in 10–12 days to hypersensitivity to the injection of 1 drop of 1% soln. in EtOH. During this period the metabolic processes are lowered, and there is a decrease in the R. Q. and the C/N coeff. of the urine. The same results are obtained after serum anaphylaxis. **II. Changes in nitrogen metabolism during hypersensitiveness of the organism to dinitrochlorobenzene.** F. A. Sverdlova. *Ibid.* 51–9 (in English, 59).—Subjects on various diets were sensitized by subcutaneous injection of I. Those receiving an ample supply of dietary protein showed a lower excretion of ammonia N and an increase of creatinine N and amino acids in the urine. Those on a low protein diet showed a sharp drop in urea N (III) and an increase in II and residual N (IV) in the urine. Those on an intermediate protein diet showed a fall in III, especially after the full development of hypersensitivity, and a sharp increase in ammonia N and IV. These changes are all related to functional changes in the liver. **III. Metabolism of salts during hypersensitiveness of the organism to dinitrochlorobenzene.** E. S. Novakovskaya and E. E. Vil'koviskaya. *Ibid.* 60–78 (in English, 77–8). The salt metabolism of subjects receiving 150 g. of protein, 84 g. of vegetables and animal proteins and 64 g. of primarily vegetable protein per day, was studied before sensitization, during its development, when hypersensitivity was complete, and finally when skin tests gave a neg. reaction. In the period of sensitization and hypersensitization the excretion of neutral S decreased and that of inorg. SO$_4$ increased. Slight decreases in the P, Ca, Na and Cl of the urine were observed, with a slight increase in K. The ratio of alk. equivalents introduced to that of equivalents eliminated increased, especially in the case of those on a low-protein diet. S. A. Karjala



The metabolism of nitrogenous constituents in dogs during anaphylaxis. F. A. Sverdlova. *Arch. sci. biol.* (U. S. S. R.) 47, No. 1, 85–8 (in English, 88)(1937).—Dogs fed on a purine-free diet (oatmeal and milk) were given a subcutaneous injection of 4 cc. of normal horse serum, followed by a 2nd injection 17–18 days later. An increase in uric acid and purines was noted, with a decrease in ammonia and org. acids. No anaphylactic shock was observed.

S. A. Karjala